WHAT IS CLAIMED IS:

1. A method for accessing an interior chamber of a beating heart, said method comprising:

forming a penetration through a muscular wall of the heart into the interior chamber;

positioning a distal end of a tubular access device having an inner lumen through the penetration; and

forming a hemostatic seal between the device and the penetration to inhibit blood loss through the penetration.

2. A method as in claim 1 wherein the interior chamber is selected from a right atrium, a right ventricle, and a left atrium.

3. A method as in claim 2, wherein a proximal end of the tubular access device is open to the exterior and wherein blood flow through the inner lumen is prevented by the pressure head of blood within the inner lumen.

4. A method as in claim 3, wherein a lateral side of the patient is disposed upward to permit vertical entry of the tubular access device into the interior chamber from a lateral portion of the chest.

5. A method as in claim 1, wherein the tubular access device is introduced percutaneously through an intercostal space.

6. A method as in claim 5, wherein the tubular access device is passed percutaneously through an intercostal space selected from the second, third, fourth, fifth, sixth or seventh intercostal space.

7. A method as in claim 1, wherein a lung is collapsed to provide a working space between the ribs and the pericardium.

8. A method as in claim 7, further comprising percutaneously introducing a viewing scope into the working space and viewing the heart while forming the penetration and positioning the distal end of the access device.

9. A method as in claim 8, wherein the heart is viewed by viewing a video image obtained from a camera mounted to the viewing scope.

10. A method as in claim 8, wherein the heart is directly viewed through an optical passage in the viewing scope.

11. A method as in claim 1, wherein the hemostatic seal is formed by expanding a balloon around the access device to occlude the penetration.

12. A method as in claim 1, wherein the hemostatic seal is formed by radially expanding the access device.

13. A method as in claim 1, wherein the hemostatic seal is formed by tightening a purse-string suture in the heart wall around the penetration.

14. A method as in claim 1, further comprising performing a procedure on the heart using one or more instruments introduced through the inner lumen of the access device.

15. A method for closing a cardiac septal defect in a heart, said method comprising:

positioning a tubular access device percutaneously through an intercostal space and through a penetration in a muscular wall of the heart; and

passing one or more instruments from a proximal end of the access device, through an inner lumen of the access device, and out of a distal end of the access device into a cardiac chamber in the heart, wherein the one or more instruments are used to close the septal defect.

16. A method as in claim 15, wherein the cardiac septal defect is closed by applying at least one suture to the cardiac septum using a suturing instrument introduced into the cardiac chamber through the inner lumen of the access device.

17. A method as in claim 16, wherein the step of applying at least one suture comprises:

inserting through the defect a plurality of needles connected by at least one length of suture, the needles being inserted while in a retracted position;

repositioning the needles to a radially expanded position;

drawing the needles through the cardiac septum while in the radially expanded position to position the length of suture across the defect; and

tensioning the length of suture to close the defect.

18. An improved method for closing a cardiac septal defect of the type in which a patch of material is secured over the defect, wherein the improvement comprises introducing and securing the patch through an inner lumen of a tubular access device positioned through a muscular wall of the heart.

19. An improved method for closing a cardiac septal defect of the type in which a pericardium patch is secured over the defect, wherein the improvement comprises harvesting the pericardium patch using instruments introduced through one or more intercostal spaces, and introducing and securing the patch in the heart through an inner lumen of a tubular access device positioned through a muscular wall of the heart.

20. An improved method for closing a cardiac septal defect of the type in which the defect is sutured closed, wherein the improvement comprises suturing the defect using an instrument introduced through an inner lumen of a tubular access device positioned through a muscular wall of the heart.

21. A method of forming a lesion in heart tissue of a patient, comprising:

providing an electrophysiological ablating device comprising at least one electrode;

forming an opening in a patient's chest, the opening passing through the chest wall and into the patient's thoracic cavity;

passing the electrode through the opening;

postioning the electrode adjacent to heart tissue; and

ablating the heart tissue with the electrode to create a lesion in the heart tissue.

22. The method of claim 21, comprising the steps of:

forming a second opening in the wall of the patient's heart, the second opening passing through the wall of the heart and into an interior chamber of the heart;

positioning the electrode through the second opening and within an interior chamber of the heart prior to the step of ablating the heart tissue with the electrode.

23. The method of claim 22, wherein the step of positioning the electrode within a chamber of the patient's heart comprises the steps of:

introducing a tubular access device into the second opening, the access device having an inner lumen and a distal end;

inserting the electrophysiological ablation device through the inner lumen of the tubular access device such that the electrode extends beyond the distal end of the access device and within an interior chamber of the heart.

24. The method of claim 21, wherein the opening is formed intercostally and the electrophysiological ablation device is introduced through the intercostal space.

25. The method of claim 21, wherein the step of ablating the heart tissue is performed while the heart is beating.

26. A method of ablating cardiac tissue, comprising:

inserting an ablation device into a chamber of a patient's heart through a penetration formed in a wall of the heart, the ablation device having a distal end adapted to transmit ablative energy;

positioning the distal end of the ablation device at a desired site within the chamber of the heart;

applying ablative energy to the cardiac tissue to form at least one lesion.

27. The method of claim 26, wherein the distal end of the ablation device is positioned adjacent an endocardial surface of the patient's heart.

28. The method of claim 26, wherein the electrode is positioned within the left atrium of the heart, and the at least one lesion is formed on the endocardial surface of the left atrium.

29. The method of claim 26, wherein the electrode is positioned within the right atrium of the heart, and the at least one lesion is formed on the endocardial surface of the right atrium.

30. A method of forming a lesion in heart tissue of a patient, comprising:

providing an electrophysiological ablating device comprising an ablating element;

forming an opening in a patient's chest, the opening passing through the chest wall and into the patient's thoracic cavity;

positioning the ablating element through the opening so that the ablating element is disposed adjacent heart tissue; and

ablating the heart tissue with the ablating element to create a lesion in the heart tissue.

31. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying radiofrequency energy to create the lesion in the heart tissue.

32. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying microwave energy to create the lesion in the heart tissue.

33. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying ultrasound energy to create the lesion in the heart tissue.

34. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying laser energy to create the lesion in the heart tissue.

35. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying direct current to create the lesion in the heart tissue.

36. The method of claim 30, wherein the step of ablating the heart tissue comprises the step of applying cyrogenic energy to create the lesion in the heart tissue.

37. The method of claim 30, comprising the steps of:

forming a second opening in the wall of the patient's heart, the second opening passing through the wall of the heart and into an interior chamber of the heart;

positioning the ablating element through the second opening prior to the step of ablating the heart tissue with the ablating element.